

IN THE CLAIMS:

1-17. (Cancelled).

18. (Currently Amended) [[The]] A chemical feed system for a foam dispenser, comprising:

a motor with a drive shaft;

a pump unit;

a drive transmission system in line between said motor and pump unit, said drive transmission system comprising a magnetic coupling assembly having a first magnetic coupling member and a second magnetic coupling member and an intermediate shroud positioned between said first and second magnetic coupling members and sealing fluid within said pump unit[[]; and]] wherein said shroud has a chemical reception cavity; and into which chemical flows
an isocyanate feed inlet port that feeds isocyanate to the chemical reception cavity.

19. (Currently Amended) A chemical feed system for a foam dispenser, comprising:

a motor;

a pump unit;

a drive transmission system in line between said motor and pump unit, said drive transmission system comprising a magnetic coupling assembly having a first magnetic coupling member and a second magnetic coupling member and an intermediate shroud positioned between said first and second magnetic coupling members and sealing fluid within said pump unit; and wherein said shroud has a chemical reception cavity into which chemical flows,

The system of claim 18 wherein said first magnetic coupling member, said second magnetic coupling member and said shroud are arranged such that a horizontal cross-sectional plane extends through each of said first and second coupling members, and such that a reactant foam precursor chemical flows between an interior surface of said shroud and the second magnetic coupling member positioned within said shroud and coupled to said pump unit, and said first magnetic coupling member is driven by said motor and drives said second magnetic coupling member.

20. (Original) The system of claim 18 wherein said shroud includes a cylindrical side wall, an upper cap and a lower end, and said first magnetic coupling member includes a shroud reception cavity for receiving an upper region of said shroud, and said second magnetic coupling member is received within the chemical reception cavity defined by an inner surface of the side wall of said shroud.

21. (Currently Amended) The chemical feed system as recited in claim 18 further comprising a transmission shaft having a drive transmission upstream end received within said second magnetic coupling member and a downstream end, and wherein said first magnetic coupling member has a raised upper section with threaded aperture for receiving ~~[[the]]~~ a drive shaft of said motor.

22. (Currently Amended) The chemical feed system as recited in claim 18 wherein said shroud has a ~~cylindrical~~ side wall and an upper cover which together define a sealed chemical reception cavity in which one of said first and second magnetic coupling members is received, and

wherein a reactant foam precursor chemical flows between an interior surface of said shroud and the magnetic coupling member which is positioned in the chemical reception cavity formed within said shroud and is coupled to said pump unit, and the other magnetic coupling member is driven by said motor and drives said second magnetic coupling member.

23. (Original) The chemical feed system as recited in claim 22 wherein a magnetic ring portion of said second magnetic coupling member is fully received within the chemical reception cavity of said shroud.

24. (Currently Amended) The chemical feed system as recited in claim 22 ~~[[23]]~~ wherein said drive transmission system includes a drive transmission shaft, and said pump unit includes an inlet pump manifold and an outlet pump manifold with said shroud fastened to said outlet pump manifold, and said outlet pump manifold includes a manifold reception cavity within which said drive transmission shaft axially extends, and said drive transmission shaft is

supported by a first bearing device also received within the manifold reception cavity of said output pump manifold, and

wherein said inlet pump manifold and outlet pump manifold are in a vertically stacked arrangement with said inlet manifold having a filter extending across a lower region of said inlet manifold.

25. (Currently Amended) A chemical feed system for a foam dispenser, comprising:
a motor;

a pump unit;

a drive transmission system in line between said motor and pump unit, said drive transmission system comprising a magnetic coupling assembly having a first magnetic coupling member and a second magnetic coupling member and an intermediate shroud positioned between said first and second magnetic coupling members and sealing fluid within said pump unit, and wherein said shroud has a chemical reception cavity into which chemical flows,

wherein said drive transmission system includes a drive transmission shaft, and said pump unit includes an inlet pump manifold and an outlet pump manifold with said shroud fastened to said outlet pump manifold, and said outlet pump manifold includes a manifold reception cavity within which said drive transmission shaft axially extends, and said drive transmission shaft is supported by a first bearing device also received within the manifold reception cavity of said output pump manifold, and wherein said drive transmission system
~~The chemical feed system as recited in claim 24 further comprises comprising~~ a second bearing device also received within said manifold reception cavity to provide bearing support to said drive transmission shaft and which second bearing device is axially spaced apart from said first bearing device, and

wherein said second magnetic coupling member is received within said shroud and is spaced from said shroud as to have a fluid intermediate layer between a peripheral surface of said second magnetic coupling member and an interior surface of said shroud extending about said peripheral surface.

26. (Original) The chemical feed system as recited in claim 25 wherein said drive transmission shaft has an enlarged section positioned between two radially smaller sections, and said first and second bearing sections being received within said two radially smaller sections.

27. (Currently Amended) The chemical feed system for a foam dispenser, comprising:

a motor with a drive shaft;

a pump unit;

a drive transmission system in line between said motor and pump unit, said drive transmission system comprising a magnetic coupling assembly having a first magnetic coupling member and a second magnetic coupling member and an intermediate shroud positioned between said first and second magnetic coupling members and sealing fluid within said pump unit; and wherein said shroud has a chemical reception cavity into which chemical flows, and

~~The chemical feed system as recited in claim 18~~ wherein said drive transmission system comprises a flexible coupling in line between said second magnetic coupling member, which is received within said shroud, and said pump unit.

28. (Currently Amended) The chemical feed system as recited in claim 27 further comprising a connection pin which connects said pump drive connector to the drive component of said pump unit.

29. (Currently Amended) A chemical feed system for a foam dispenser system comprising:

a motor with a drive shaft;

a pump unit;

magnetic coupling means for transmitting force from the drive shaft of said motor to said pump unit while retaining said drive shaft free from chemical contact, said magnetic coupling means including a first magnetic coupling member driven more directly by said motor than said second magnetic coupling member, a separating device and a second magnetic coupling member with said separating device extending into a reception cavity formed in said first magnetic

coupling member, wherein said separating device includes a shroud with an interior reception cavity and the second magnetic coupling member extends into the interior reception cavity provided by said shroud, and said shroud is radially spaced from an interior wall of said shroud as to define a chemical fluid passageway region.

30. (Cancelled).

31. (Currently Amended) A chemical supply system for a foam dispensing system, comprising:

first and second chemical sources;

a dispenser system;

first and second in-line pump assemblies in line between said dispenser system and said chemical source, and wherein

each of said first and second pump assemblies comprise the chemical ~~supply~~ feed system of claim 29.

32. (Original) The chemical supply system as recited in claim 31 wherein said dispenser system includes a base support and said dispensing system including a foam dispenser and a dispenser support connected to said base support; and said first and second in-line pump assemblies are supported by said base support.

33. (Original) The chemical supply system as recited in claim 32 wherein said base support includes rollers.

34. (Currently Amended) A chemical supply system for a foam dispensing system, comprising:

first and second chemical sources;

a dispenser system;

first and second in-line pump assemblies in line between said dispenser system and said chemical source, and wherein

each of said first and second pump assemblies comprise the chemical feed system of claim 29.~~The chemical supply system as recited in claim 31~~ said chemical supply system further comprising first and second chemical supply hoses extending between said first and second chemical sources and respective in-line pump assemblies, and first and second heater hoses comprising a heater and extending between respective in-line pump assemblies and said dispenser system.

35. (Original) The chemical supply system as recited in claim 34 wherein said chemical supply hoses each have a manifold end which includes a stop valve and means for attachment of said manifold ends to respective inlet ports of said in-line pump assemblies.

36. (Currently Amended) A chemical feed system for a foam dispenser system, comprising:

a pump with a pump head and an inlet conduit;

a chemical supply line with an input valve assembly adapted for releasable attachment to said pump and fixed to the chemical supply line[; and]] ,said input valve assembly having a valve for stopping flow of chemical into said inlet conduit;

a dispenser and a chemical feed line having an upstream end connected to said pump and a downstream end adapted for connection with said dispenser, and said chemical feed line having a heater extending therealong;

an output valve provided in line between an inlet region of said chemical feed line and an output of said pump, and

wherein said input valve assembly has a fastener which secures said input valve assembly to an inlet housing defining said inlet conduit; and

an inlet manifold flow stopper which is dimensioned to preclude back flow out of said inlet manifold when said input valve assembly is detached from said inlet manifold.

37. (Cancelled).

38. (Currently Amended) The feed system as recited in claim 36 ~~[[37]]~~ wherein said chemical feed line has a length of 40 feet or less and said chemical supply line has a length of greater than 40 feet.

39-40. (Cancelled).

41. (Original) The chemical feed system of claim 36 further comprising a seal device which seals off a chemical passageway exchange between said input valve mechanism and a housing defining said inlet conduit.

42. (Canceled) .

43. (Currently Amended) A chemical feed system for a foam dispenser, comprising:
[[a]] an inlet pump housing;
an outlet pump housing;
a pump head for directing chemical from said inlet pump housing to said outlet pump housing;
a driver;
a magnetic coupling ~~which is~~ having first and second magnetic coupling components positioned for drive transmission coupling of said driver and said pump head;
a coupling housing which houses said second magnetic coupling component and extends between said driver and outlet manifold and within which ~~is received~~ said second magnetic coupling is received such that chemical travel occurs between a radial exterior surface of a component of said second magnetic coupling component and an adjacent interior surface of said coupling housing, and wherein said first magnetic coupling component is driven by said driver and drives said second magnetic coupling component.

44. (Currently Amended) The chemical feed system as recited in claim 43 wherein said driver is an electric powered motor and said coupling housing has a first upper end which

receives said motor and a lower end which receives said outlet pump manifold and encompasses said second magnetic coupling component.

45. (Currently Amended) The chemical feed system as recited in claim 44 [[46]] wherein said coupling housing is a cylindrical sleeve and said second magnetic coupling component has a protective covering suited for isocyanate contact.

46. (Cancelled).

47. (Currently Amended) A chemical feed system for a polyurethane foam dispenser system, comprising:
a motor with encoder;
a pump unit;
a magnetic coupling drive transmission system in line between said motor and pump unit;
and a control system for monitoring pump drive characteristics, and
wherein said magnetic coupling drive includes a shroud within which is positioned a magnetic coupling member having a coating layer that is suited for protection from isocyanate magnetic material contract.

48. (Currently Amended) The chemical feed system as recited in claim 47 [[49]] wherein said motor is a brushless DC motor with an encoder communicating with said control system.

49. (New) The chemical feed system as recited in claim 39 wherein said chemical fluid passageway region extends into an area formed between a cover of said shroud and a juxtaposed surface of said second magnetic coupling member.

50. (New) The chemical feed system as recited in claim 29 wherein said second magnetic coupling member has a protective coating formed over magnetic material of said second magnetic coupling member.

51. (New) The chemical feed system as recited in claim 50 wherein fluid received within said shroud is isocyanate and said protective coating protects the magnetic material of said second magnetic coupling member from isocyanate degradation.

52. (New) The chemical feed system as recited in claim 27 wherein said second magnetic coupling member has a protective coating formed over magnetic material of said second magnetic coupling member with said coating providing protection from isocyanate contact.

53. (New) The chemical supply system as recited in claim 35 wherein said heater hoses each comprise a resistance heater.

54. (New) The chemical supply system as recited in claim 34 wherein said first and second chemical sources include first and second reactive polyurethane foam chemical precursors.

55. (New) The chemical supply system as recited in claim 34 wherein one of said precursors is an isocyanate.

56. (New) The chemical feed system as recited in claim 18 wherein the chemical feed system is for a polyurethane foam dispenser.

57. (New) The chemical feed system as recited in claim 18 further comprising a source of isocyanate for feeding the isocyanate to a polyurethane foam dispenser.